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Simply the Best
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This antenna must be end mounted with the $\mathrm{M} / \mathrm{B}$ Mounting Bracket included.

Boom Length: 48"

## Guarantee

No hassle refund
If you are not completely satisfied with any ARROW ANTENNA Product it can be returned for a FULL refund less shipping and handling within 90 DAYS of purchase date.

SIMPLY THE BEST

Element Spacing: 1" 11" 22" 34" 47"
Model 220-5S ${ }_{\text {olid }}$

We don't invent antennas.
We simply build them better.

| Part \# | Price | Model 220-5S Parts List |
| :--- | :--- | :--- |
| 220S01 | $\$ 18.00$ | Boom (with connector) 1" Sq. X 48" X .062 wall |
| 220S04 | $\$ 6.00$ | Reflector Element 1/4" Round X 27 3/8" |
| 220S05 | $\$ 6.00$ | Driven Element 1/4" Round X 26" |

Remove the connector from the boom ( 4 screws). Turn the connector 90 degrees and reinstall with the copper rod sticking out through the rubber grommet in the boom.

Thread each of the $1 / 4$ " round elements with a $\# 4-40 \times 3 / 4$ " stainless steel screw into the center of each element. This is to make sure all the elements are threaded properly and that the screws start easy.

Lay out the elements according to size. The dimensions and position of each element are shown on the front page of these instructions. Attach the elements to the boom as shown.
Caution:
Do NOT over tighten the screw or it will bend the element.
Turn the screw just until it is snug then $1 / 4$ turn more.
Then slide the plastic tube for the gamma match over the copper rod. The plastic tube should go through the rubber grommet at least $1 / 8 "$. Then slide the aluminum tube over the plastic tube. Loosen the screw of the shorting bar and slide it over the driven element and the gamma match. (See Gamma Match Adjustment Sheet)

## Shorting Bar



## 220-5S Gamma Match Setting



Driven Element 26" $\qquad$

Be sure the plastic tube is inserted about $1 / 8^{\prime \prime}$ or more into the rubber grommet in the boom. The aluminum tube will slide up or down on the plastic to get the correct SWR measurement. (Plus or minus $1 / 4 "$ for best SWR.)


Mounting Bracket for Antennas with 1" Square Booms. For Masts up to $11 / 2$ ".

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## Model M/B

Mounting Bracket

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## CHECKLIST FOR OUR SHIPPING DEPARTMENT

Circle Antenna being built:
220-5S N
220-5S SO-239

N connector
SO-239 Connector
Connector replacement sign.
$1 "$ x 48 " Boom
5 Element holes
5 Set screw holes
Black end caps.
Black gromets in boom adjacent to connector hole.
6 @ \#4-40 X 3/4" Element Screws (Stainless)
Gamma Match Assembly (3.5" Plastic, 3.5" Aluminum \& 3
3/8" Copper on Connector)
Shorting Bar Assembly (3 piece)
Reflector Element 1/4" Round X 27 3/8"
Driven Element 1/4" Round X 26"
1st Director Element 1/4" Round X 23 1/4"
2nd Director Element 1/4" Round X 22 3/4"
3rd Director Element 1/4" Round X 22 1/4"
2 Mounting Brackets
2 Saddles
4 bolts, nuts \& lock washers $1 / 4-20 \times 2.75 "$
4 bolts, nuts \& lock washers $1 / 4-20 \times 1.75 "$

